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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/466,178	12/17/1999	ANDREW PETER BRADLEY	169.1523	9858
5514	7590	01/25/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			KIBLER, VIRGINIA M	
			ART UNIT	PAPER NUMBER
			2623	
DATE MAILED: 01/25/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/466,178	BRADLEY ET AL.
	Examiner	Art Unit
	Virginia M Kibler	2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 September 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5, 7 and 10-24 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,5,7,10,11,14-16,19-21 and 24 is/are rejected.

7) Claim(s) 3,4,12,13,17,18,22 and 23 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on 9/3/04 has been entered. Claims 1-5, 7, and 10-24 remain pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 10, 15, and 20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 7, 10, 11, 14-16, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuoka (US 6,263,120) in view of Avinash (US 6,208,763).

Regarding claim 1, Matsuoka discloses identifying text and edge regions in the first set of discrete sample values (Abstract; Figure 1) depending on the type of image content including an edge strength indicator and a local contrast indicator for each of the discrete sample values of the first set, combining the text and edge regions to form a kernel selection map (Col. 6-8), and selecting the interpolation kernel using the kernel selection map for use in interpolating the first

set of discrete sample values to generate the second set of discrete sample values (Col. 2, lines 26-53; Figure 1).

Matsuoka does not appear to disclose using an edge direction indicator or cleaning the kernel selection map by re-orientating the edge regions according an underlying edge direction. However, Avinash discloses that it is known to identify edge regions using an edge strength indicator and an edge direction indicator (Col. 5, lines 31-67, Col. 6, lines 1-65). Avinash further discloses a cleaning step of re-orientating the edge regions according to an underlying edge direction (Col. 8, lines 66-67, Col. 9, lines 1-58). Matsuoka and Avinash are combinable because they are from similar problem solving areas of edge detection. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the edge detection disclosed by Matsuoka to include using an edge direction indicator and a cleaning step as taught by Avinash. The motivation for doing so would have been because various edge detections are well known and routinely utilized in the art and including a cleaning step increases the accuracy of the system. Therefore, it would have been obvious to combine Matsuoka and Avinash to obtain the invention as specified in claim 1.

It is further submitted that there is no connection between the identified text and edge regions and the selection of the interpolation kernel other than the interpolation kernel is selected using the cleaned kernel selection map. There is no limitation on how the interpolation kernel is selected. On page 4, lines 6-10 of the specification, applicant's indicate the interpolation kernel is selected depending on an edge strength indicator, an edge direction indicator and an edge context indicator for each discrete sample value of the first set. This feature is not present in the claim. Furthermore, the cleaning limitation recited in claim 1 broadly consists of "re-orientating

the edge regions according to an underlying edge direction.” There is no limitation regarding “isolated edge directions occurring in an otherwise uniformly directed local region” as indicated on page 13, lines 23-27 of the specification.

Regarding claims 10, 15, and 20, the arguments analogous to those presented above for claim 1 are applicable to claims 10, 15, and 20.

Regarding claims 2, 11, 16, and 21, Matsuoka discloses a plurality of interpolation kernels each derived from a universal interpolation kernel (Col. 4, lines 46-52).

Regarding claims 5, 14, 19, and 24, Matsuoka discloses the first set of discrete sample values are at a different resolution than the second set of discrete sample values (Figure 7).

Regarding claim 7, Matsuoka and Avinash do not appear to recognize including a morphological process. However, using a morphological operation is known in the image processing prior art, as indicated in the applicant’s disclosure (Page 9, lines 16-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the indicators disclosed by Matsuoka and Avinash to include a morphological operation in order to emphasize edge-enhanced image of the boundaries of the objects in the image.

#### ***Allowable Subject Matter***

5. Claims 3, 4, 12, 13, 17, 18, 22, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Virginia Kibler can be reached on (703) 306-4072. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Virginia Kibler  
01/21/05

MEHRDAD DASTOURI  
PRIMARY EXAMINER

